Atty. Dkt. No. 081356-0163

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Hiroyuki MIZUGUCHI et al.
Title:	ADENOVIRUS VECTOR
Appl. No.:	09/845,160
Filing Date:	05/01/2001
Examiner:	Ulrike Winkler
Art Unit:	1648

AMENDMENT UNDER 37 CFR 1.312

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice Regarding Drawings dated June 1, 2005, Applicant requests that the subject application be amended as follows:

Amendments to the Specification begin on page 2 of this document.

Remarks/Arguments begin on page 4 of this document.

Please amend the application as follows:

Amendments to the Specification:

Please amend the specification as follows:

On page 1, directly beneath the title, please insert the following:

--The application contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee. --

Please replace the paragraph starting at page 4, line 12, with the following rewritten paragraph:

~~Figure 1 shows~~ Figures 1A-1C show the characteristics of the vector plasmids of the invention. ~~(A)~~ (Figure 1A) Vector plasmid pAdHM15,16, 17 and 18 contain E1/E3-deleted adenovirus genomic DNA, *Csp*45I and/or *Cla*I site between positions 32679 and 32680 of the adenoviral genomic DNA, and I-*Ceu*I/*Swa*I/PI/*Sce*I sites in the E1-deletion region. ~~(B)~~ (Figure 1B) Sequences around a foreign oligonucleotide insertion site are shown for each vector plasmid. Foreign oligonucleotides are indicated in italics. ~~(C)~~ (Figure 1C) Oligonucleotides synthesized for each plasmid vector. An oligonucleotide shown for pAdHM15, is designed so that a positive clone having the oligonucleotide inserted therein is digested with C*sp*451 but is not digested with *Cla*I.

Please replace the paragraphs starting at page 5, line 2 with the following rewritten paragraphs:

~~Figure 3 shows~~ Figures 3A and 3B show the result of restriction endonuclease analysis. ~~(A)~~ (Figure 3A) Vector plasmid (pAdHM15-RGD or pAdHM15-RGD-LacZ) or LacZ expression recombinant adenovirus DNA having RGD peptide in the fiber (AdHM15-RGD-LacZ) are digested with *Hind*III/*Pac*I, *Csp*45I/*Pac*I, *Hind*III or *Csp*45I, followed by electrophoresis on 0.7% agarose gel.

Lane 1: 1kb DNA ladder marker

Lane 2: pAdHM15-RGD digested with *Hind*III/*Pac*I.

Lane 3: pAdHM15-RGD digested with *Csp*45I/*Pac*I

Lane 4: pAdHM15-RGD-LacZ digested with *Hind*III/*Pac*I

Lane 5: pAdHM15-RGD-LacZ digested with *Csp*45I/*Pac*I

Lane 6: AdHM15-RGD-LacZ virus DNA digested with *Hind*III

Lane 7: AdHM15-RGD-LacZ virus DNA digested with *Csp*45I.

~~(B)~~ (Figure 3B) *Hind*III and *Csp*45I restriction map for recombinant adenovirus vector (AdHM15-RGD-LacZ). Fragment size (kb) is shown top or bottom of the genome. CMV denotes a intermediate-early promoter/enhancer of cytomegalovirus, and P(A) denotes a bovine growth hormone polyadenylation signal.

Please replace the paragraph starting at page 5, line 21 with the following rewritten paragraph:

~~Figure 5 shows~~ Figures 5A-1 through 5B-2 show the comparison of LacZ expression among culture cells transduced with AdHM4-LacZ and those transduced with AdHM15-RGD-LacZ. ~~(A)~~ (Figure 5A) Results of measurement of LacZ expression with chemiluminescence assay. ~~In (A), (a) and (b)~~ Figures 5A-1 and 5A-2 show the results obtained by the use of the 1200 vector particles/cell and the 8000 vector particles/cell, respectively. Data are shown with average ± S.D. of data from 3 rounds of the test. ~~(B)~~ (Figure 5B) Results of X-gal staining for CHO cell (1200 vector particles/cell). In ~~(B)~~ Figure 5B, ~~(a)~~ 5B-1 is the result for AdHM4-LacZ, and ~~(b)~~ 5B-2 is the result for AdHM15-RGD-LacZ.

Please replace the paragraph starting at page 6, line 3 with the following rewritten paragraph:

~~Figure 6 shows~~ Figures 6A and 6B show the comparison of Luc expression among culture cells transduced with AdHM4-L2, AdHM15-RGD-L2, or AdHM15-NGR-L2. AdHM4-L2 is shown with "○," AdHM15-RGD-L2 with "●," and AdHM15-NGR-L2 with "▲." ~~(A)~~ (Figure 6A) Results of measurement of Luc expression in SK HEP-1 cells. ~~(B)~~ (Figure 6B) Results of measurement of Luc expression in LN444 cells. Data are shown with average ± S.D. of data from 4 rounds of the test.

REMARKS

Entry of the foregoing amendment is respectfully requested. The amendment is required in accordance with the Notice regarding Drawings issued June 1, 2005. The amendment does not change the scope of the claims. Accordingly, entry of the amendment is requested.

In the specification, paragraphs have been amended on pages 1, 4, 5, & 6.

It is believed that no fees are due in connection with this Rule 312 amendment. In the event this is not correct, the undersigned authorizes the Commissioner to charge Deposit Account No. 19-0741.

Respectfully submitted,

Date 5 July 2005

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